

CLAIMS:

This listing of claims will replace all prior versions and listings of claims in the application:

Listing of Claims:

1. (Previously Presented) A lacquer composition useful as a propellant, comprising:
from about 15 to about 70 wt% of an organic solvent;
from about 0.1 to about 2.5 wt% of a stabilizer;
optionally, from about 0% to about 40 wt% of an energetic plasticizer;
optionally, from about 0 to about 10 wt% of a nonenergetic plasticizer;
optionally, from about 0 to about 10 wt% water;
optionally, from about 0 to about 15 wt% of additional additives;
balance being nitrocellulose; all weight percents based on the total weight of said composition, and wherein said lacquer composition has a viscosity of less than 10 million centipoise when processed; and wherein said lacquer composition is processed into perforated propellant grains.
2. (Previously Presented) The lacquer composition of claim 1, wherein said organic solvent is selected from the group consisting of ethyl acetate, ether, acetone, and combinations thereof.
3. (Previously Presented) The lacquer composition of claim 1, wherein said stabilizer is selected from the group consisting of diphenylamine, ethyl centralite, diethyldiphenylurea, 2-nitrodiphenylamine, N-nitrosodiphenylamine, and combinations thereof.
4. (Previously Presented) The lacquer composition of claim 1, wherein said optional energetic plasticizer is selected from the group consisting of nitroglycerin, ethylene glycol esters, methylene glycols, glycol esters, bis (2, 2-dinitropropyl) formal acetal, and combinations thereof.
5. (Previously Presented) The lacquer composition of claim 1, wherein said optional nonenergetic plasticizer is selected from the group consisting of dibutylphthlate, adipate esters, and combination thereof.
6. (Previously Presented) The lacquer composition of claim 1, wherein said optional additional additives are selected from the group consisting of lubricants; coolants; barrel wear additives; flash suppressants; decoppering agents; energetic solids, and combinations thereof.

7. (Previously Presented) A lacquer composition useful as a propellant, said lacquer composition consisting essentially of:

from about 30 to about 65 wt% of an organic solvent selected from the group consisting of ethyl acetate, ether, acetone, and combinations thereof;

from about 0.25 to about 1.5 wt% of a stabilizer selected from the group consisting of diphenylamine, ethyl centralite, diethyldiphenylurea, 2-nitrodiphenylamine, N-nitrosodiphenylamine, and combinations thereof;

optionally, from about 5% to about 25 wt% of nitroglycerin as an energetic plasticizer;

optionally, from about 0 to about 3 wt% of a nonenergetic plasticizer selected from the group consisting of dibutylphthalate, adipate esters, and combinations thereof;

optionally, from about 0 to about 4 wt% water; optionally, from about 0 to about 15% of additional additives selected from the group consisting of lubricants; coolants; barrel wear additives; flash suppressants; decoppering agents; energetic solids, and combinations thereof.

balance being nitrocellulose; and

wherein all weight percents are based on the total weight of said composition, and wherein said lacquer composition has a viscosity of between 1 million and 3 million centipoise and wherein said lacquer composition is processed into perforated propellant grains.

8-18. (Cancelled). Applicants reserve the right to prosecute claims 8-18 in subsequent patent applications.

19. (Previously Presented) The lacquer composition of claim 1, wherein said processed perforated propellant grains have a circular cross-section.

20. (Previously Presented) The lacquer composition of claim 1, wherein said processed perforated propellant grains have a cross-section having two semi-circles connected by parallel lines.

21. (Previously Presented) The lacquer composition of claim 1, wherein said processed perforated propellant grains have outwardly extending ridges.

22. (Previously Presented) The lacquer composition of claim 7, wherein said processed perforated propellant grains have a circular cross-section.

23. (Previously Presented) The lacquer composition of claim 7, wherein said processed perforated propellant grains have a cross-section having two semi-circles connected by parallel lines.

24. (Previously Presented) The lacquer composition of claim 7, wherein said processed perforated propellant grains have outwardly extending ridges.